

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

PEST MANAGEMENT (ACRE)

CODE 595

DEFINITION

Utilizing environmentally sensitive prevention, avoidance, monitoring and suppression strategies, to manage weeds, insects, diseases, animals and other organisms (including invasive and non-invasive species), that directly or indirectly cause damage or annoyance.

PURPOSES

This practice is applied as part of a Resource Management System (RMS) to support one or more of the following purposes:

- Enhance quantity and quality of commodities.
- Minimize negative impacts of pest control on soil resources, water resources, air resources, plant resources, animal resources and/or humans.

CONDITIONS WHERE PRACTICE APPLIES

Wherever pests will be managed.

CRITERIA

General Criteria Applicable to All Purposes

A pest management component of a conservation plan shall be developed.

All methods of pest management must comply with federal, state, and local regulations, including management plans for invasive pest species, noxious weeds and disease vectors. Compliance with the Food Quality Protection Act (FQPA); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Worker Protection Standard (WPS); and Interim Endangered Species Protection

Program (H7506C) is required for chemical pest control. **The State of Montana Department of Agriculture, through the Montana Pesticide Act administers rules and regulations concerning pesticides and their use in Montana.**

Integrated pest management (IPM) that strives to balance economics, efficacy and environmental risk, where available, shall be incorporated into planning alternatives. (IPM is a sustainable approach to pest control that combines the use of prevention, avoidance, monitoring and suppression strategies, to maintain pest populations below economically damaging levels, to minimize pest resistance, and to minimize harmful effects of pest control on human health and environmental resources. IPM suppression systems include biological controls and the judicious use of chemical controls). **Commodity specific IPM programs are listed in TABLE 3—Montana IPM Programs.**

An appropriate set of mitigation techniques must be planned and implemented to reduce the environmental risks of pest management activities in accordance with quality criteria found in the local Field Office Technical Guide. Mitigation techniques include practices like **Field Office Technical Guide (FOTG), Section IV—Standard Practices and Specifications, 393—Filter Strips or 328—Conservation Crop Rotation**, and management techniques like application method and timing.

All methods of pest management must be integrated with other components of the conservation plan (**i.e., compliance plans**).

Clients shall be instructed to pay special attention to all environmental hazards and site-specific application criteria listed on pesticide labels and contained in extension and crop consultant recommendations.

**NRCS, MT
January 2003**

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard contact the Natural Resources Conservation Service.

NOTE: This type of font (**AaBbCcDdEe 123..**) indicates NRCS National Standards.
This type of font (**AaBbCcDdEe 123..**) indicates Montana Supplement.

When developing pest management alternatives that include chemical controls, the following shall apply:

- Both pesticide label instructions and Montana Extension Service recommendations shall be followed. All alternatives must follow the current Montana–Utah–Wyoming Weed Management Handbook.
- Montana Threatened and Endangered Species considerations must follow the FOTG, Section I–Threatened and Endangered Species List.
- Montana NRCS employees must hold a current Montana Pesticide Certification (Agricultural Plant Pest classification) to implement or review pest management components and systems.

Additional Criteria to Protect Quantity and Quality of Commodities

As an essential component of both commodity-specific IPM and IPM general principles, clients shall be encouraged to use the minimum level of pest control necessary to meet their objectives for commodity quantity and quality.

Additional Criteria to Protect Soil Resources

In conjunction with other conservation practices, the number, sequence and timing of tillage operations shall be managed to maintain soil quality and maintain soil loss below or equal to the soil loss tolerance (T) or any other planned soil loss objective. Approved erosion prediction tools are the WEQ Management Period Method and the RUSLE (Revised Universal Soil Loss Equation). Where soil quality is a concern the Soil Conditioning Index (SCI) shall be used to assess soil health.

Clients shall be encouraged to pay special attention to pesticide label instruction for limiting pesticide residues in soil that may negatively impact non-target plants, animals and humans.

Additional Criteria to Protect Water Resources

Pest management environmental risks, including the impacts of pesticides in ground and surface water on humans and non-target plants and animals, must be evaluated for all identified water resource concerns. **Planners must identify fields or areas of fields that are susceptible to surface or ground water contamination. An evaluation will be made for each field or conservation treatment unit**

(CTU). Pesticide environmental risk evaluation must include Windows Pesticide Screening Tool (WIN-PST). Evaluation procedures other than WIN-PST must be prior approved by the state resource conservationist.

A written “Alternatives Narrative”, based on the results of WIN-PST risk assessment, must be provided to the producer describing resource concerns, outlining potential risks, and providing possible mitigation measures to adopt (see example provided in specification).

When a chosen alternative has significant potential to negatively impact important water resources, (e.g., WIN-PST “Extra High,” “High,” or “Intermediate” soil /pesticide human risk ratings in drainage area of a drinking water reservoir), an appropriate set of mitigation techniques must be put in place to address risks to humans and non-target plants and animals.

Pesticide alternatives with a soil/pesticide Hazard Risk of “Extra High” or “High” must be accompanied with one or more mitigation practices. Mitigation alternatives that are evaluated with the WIN_PST risk assessment tool (i.e., foliar application, low application rates, residue management, high efficiency IWM) and continue to result in a “High” soil/pesticide Hazard Risk must be accompanied by at least one additional mitigation practice. Pesticide alternatives with a soil/pesticide Hazard risk rating of “Intermediate” shall be accompanied by at least one mitigation practice. Selection of mitigation practices and management techniques shall be based on site-specific resource concerns and pesticide loss pathway. TABLE 1 contains a list of management and conservation practice alternatives, which can help mitigate the adverse impacts of pesticides depending upon pesticide loss pathways.

Clients shall be encouraged to pay special attention to pesticide label instructions for limiting pesticide residues in leachate and runoff that may negatively impact non-target plants, animals, and humans.

The Farm-A-Syst evaluation procedure may be used to evaluate pesticide contamination potentials for farmstead and feedlot areas.

Open mixing of chemicals shall not occur in the application field within a minimum of 100 feet from a well or surface water body. Open mixing should be performed down gradient of wells.

The number, sequence and timing of tillage operations shall be managed in conjunction with other sediment control tactics and practices, in order to minimize sediment losses to nearby surface water bodies.

Additional Criteria to Protect Air Resources

Clients shall be encouraged to pay special attention to pesticide label instructions for minimizing volatilization and drift that may negatively impact non-target plants, animals and humans.

Additional Criteria to Protect Plant Resources

Clients shall be encouraged to pay special attention to pesticide label instructions including those directed at:

- Preventing misdirected pest management control measures that negatively impact plants (e.g., removing pesticide residues from sprayers before moving to the next crop and properly adjusting cultivator teeth and flame burners).
- Appropriate climatic conditions, crop stage, soil moisture, pH, and organic matter in order to protect plant health.
- Limiting pesticide residues in soil that can carry over and harm subsequent crops.

Additional Criteria to Protect Animal Resources

Clients shall be encouraged to pay special attention to pesticide label instructions that minimize negative impacts to animals.

CONSIDERATIONS

If commodity-specific IPM is not available, the following IPM principles should be considered:

- Prevention, such as using pest-free seeds and transplants, cleaning tillage and harvesting equipment between fields, irrigation scheduling to avoid situations conducive to disease development, etc.
- Avoidance, such as using pest resistant varieties, crop rotation, trap crops, etc.

- Monitoring, such as pest scouting, soil testing, weather forecasting, etc. to help target suppression strategies and avoid routine preventative pest control.
- Suppression, such as cultural, biological and chemical controls, that can reduce a pest population or its impacts. Chemical controls should be used judiciously in order to minimize environmental risk and pest resistance.

Adequate plant nutrients and soil moisture, including favorable pH and soil conditions, should be available to reduce plant stress, improve plant vigor and increase the plant's overall ability to tolerate pests.

On irrigated land, irrigation water management should be designed to minimize pest management environmental risk.

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TABLE 2—Critical Scouting Periods for Weed Management, may be used as a guideline for scheduling on-site weed infestation investigations.

Producers should be aware of neighboring fields where organic production is practiced in an effort to minimize any potential adverse impacts on those crops and associated certification.

PLANS AND SPECIFICATIONS

The pest management component of a conservation plan shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended purpose(s).

As a minimum, the pest management component of a conservation plan will include:

- Plan map and soil map of managed site, if applicable (use RMS plan maps if available).

- Location of sensitive resources and setbacks, if applicable (use RMS plan maps if available).
- Environmental risk analysis, with approved tools and/or procedures, for probable pest management recommendations by crop (if applicable) and pest.
- **An Alternatives Narrative** that provides interpretation of the environmental risk analysis, including potential impacts on non-target animals, plants and humans, and identification of appropriate mitigation techniques.
- **Crop sequence or rotation.**
- **Identification of target pests, and when available, IPM scheme for monitoring pest pressure.**
- **The Montana Pest Management Specification and Job Sheet identifying producer selected methods of pest management (biological, cultural or chemical), including rates, product and form, timing, and method of applying pest management.**
- **Printed results of pest management environmental assessments (i.e. WIN-PST, RUSLE, WEQ).**
- **Operation and maintenance instructions.**
- **An electronic Pest Management job sheet may be used to automate documentation.**

OPERATION AND MAINTENANCE

The pest management component of a conservation plan shall include appropriate operation and maintenance items for the client. These may include:

- Review and update of the plan periodically in order to incorporate new IPM technology, respond to cropping system and pest complex changes, and avoid the development of pest resistance.
- Maintain mitigation techniques identified in the plan in order to ensure continued effectiveness.
- Develop a safety plan for individuals exposed to chemicals, including telephone numbers and addresses of emergency treatment

centers and the telephone number for the nearest poison control center. The National Pesticide Information Center (NPIC) telephone number in Corvallis, Oregon, may also be given for non-emergency information:

1-800-858-7384

Monday—Friday

6:30 a.m. to 4:30 p.m. Pacific Time

In Montana, the poison control number is:

1-800-525-5042

For advice and assistance with emergency spills that involve agrichemicals **in Montana, phone calls in the following order should be made:**

1st responder – 911

2nd responder – local sheriff or police

3rd responder – County D.E.S. (Disaster Emergency Services)

4th responder – Montana Department of Agriculture – 444-3730

The national **Chemical Transportation Emergency Center (CHEMTRAC)** telephone number is:

1-800-424-9300

- Follow label requirements for mixing/loading setbacks from wells, intermittent streams and rivers, natural or impounded ponds and lakes, or reservoirs.
- Post signs according to label directions and/or federal, state, and local laws around fields that have been treated. Follow restricted entry intervals.
- Dispose of pesticides and pesticide containers in accordance with label directions and adhere to federal, state, and local regulations.
- Read and follow label directions and maintain appropriate Material Safety Data Sheets (MSDS). **Material safety data sheets and pesticide labels may be accessed on the Internet at www.greenbook.net/free.asp.**
- Calibrate application equipment according to **Montana Extension Service** recommendations before each seasonal use and with each major chemical change.
- Replace worn nozzle tips, cracked hoses, and faulty gauges.
- Maintain records of pest management for at least two years. Pesticide application records shall be in accordance with USDA Agricultural Marketing Service's Pesticide Record Keeping Program and state specific requirements.

REFERENCES

USDA–Natural Resources Conservation Service,
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